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3102 Oak Lawn Avenue
Suite 1100
Dallas, TX 75219-4281

July 21, 2015

Via Fedex
Environmental Protection Agency
Mr. James Sales, Regional PCB Coordinator
Region 6 – Main Office
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Re: Pollock Elementary School

Dear Mr. Sales:

For your review, we hereby submit the enclosed remediation plan for our client, Pollock Elementary School. Please let us know if you have any questions or concerns.

With best regards,

Mitchell E. McCrea

ENVIRONMENTAL
HEALTH & ENGINEERING

Environmental Health
& Engineering, Inc.

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Needham, MA
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July 20, 2015

Mr. James S. Sales
U.S. Environmental Protection Agency
Region 6
Mail Code: 6PD
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: Pollock Elementary School, Pollock, Louisiana (EH&E 19374)

Dear Mr. Sales:

This letter is intended to provide the U.S. Environmental Protection Agency (EPA) with information regarding polychlorinated biphenyl (PCB)-contaminated building materials that exceed the allowable levels under the federal PCB regulations. These materials were identified at Pollock Elementary School located at 4001 Highway 8 in Pollock, Louisiana (the School). Environmental Health & Engineering, Inc. (EH&E) is working in conjunction with the Director of Facilities and the Superintendent of the Grant Parish School District.

As detailed below, interior and exterior caulk has been characterized and surface wipe and air samples were collected in multiple locations in the School. PCB concentrations in the caulk samples ranged from below detection to 78,800 parts per million (ppm). PCBs were not detected in any of the wipe samples collected from accessible surfaces within the School. The highest air concentrations (199 and 240 nanograms per cubic meter [ng/m^3]) were measured in an unventilated hallway area adjacent to the School's auditorium during July. The highest air concentration in a classroom was 62 ng/m^3 during the same time period.

Per your email, the Grant Parish School District will proceed with removal of up to 660 linear feet of accessible caulk containing PCBs above 50 ppm. This material will be disposed of in accordance with local, state and federal regulations at a licensed landfill approved to accept such waste. Following removal of the caulk, adjacent window and door frames, and brick surfaces will be cleaned using CAPSUR® or a similar product designed for removal of PCB residues. Representative sections of the cleaned areas will be sampled using surface wipes to determine if PCB levels are less than or equal to 1 microgram per 100 square centimeters (1 ug/100 cm^2). If

wipe samples are greater than 1 ug/100 cm^2 wipe then one or more of the following measures will be taken, based on site conditions:

- The areas will be re-cleaned and retested.
- Adjacent substrate will be sampled to determine if PCBs have migrated into the substrate.
- Adjacent substrate will be encapsulated using epoxy, paint or another compatible sealant, as an interim solution until a permanent solution can be put in place for the adjacent materials.

The goal of this mitigation is to reduce source material in the building and prevent dermal contact with PCB-containing caulk or adjacent materials, and decrease and/or maintain airborne PCB concentrations in the School to the lowest feasible levels. The School District understands that they can proceed with these activities without EPA approval; however, we are informing EPA of these activities.

Interim mitigation will be completed during the summer of 2015. A final mitigation plan involving either removal or encapsulation of adjacent PCB-contaminated material and/or replacement of the affected building materials will be developed within two years or by August 2017, and submitted to the EPA for review and approval.

SUMMARY

Concentrations of PCBs in caulk exceeding 50 ppm were identified in three entryways leading to the school auditorium. These include two side entrances to the auditorium building from outdoors as well as a glass-enclosed hallway area ("connector hallway") that joins the auditorium building to the main school building ("Building A") that houses ten classrooms for grades five and six. The connector hallway can be closed off from the classroom part of Building A with a sliding glass door, but it is generally left open. PCBs were not detected in caulk sampled in any other areas of the school buildings. Each unique type of caulk (based on visual inspection) in each building was sampled. No exceedances of the 50 ppm threshold were identified in classrooms, offices, or other high use areas of the School. Similarly, the highest PCB concentration in the air (240 ng/m^3) was measured in the connector hallway under very low ventilation conditions.

Hallways are not air conditioned, and classroom doors are kept closed year round. Each classroom has its own heat pump system for heating and air conditioning. The auditorium is air conditioned with a separate ventilation system. One unit heater in the main hallway of the school was identified. The following provides more detailed information regarding EH&E's inspection and testing for PCB-containing caulk, the results of air and wipe sampling conducted within the School and a brief discussion of the results as they relate to human health.

BUILDING INFORMATION

The existing School building was built in 1957 with an auditorium and enclosed entrances likely added at a later date. The entire Pollock Elementary School comprises eight separate buildings that are freestanding or connected by outdoor walkways. Building A, which houses fifth and sixth grades, is connected to an auditorium building by a glass-enclosed connector hallway area. Building A is approximately 35,000 sf with 14,000 sf occupied by the auditorium. The connector hallway is approximately 1,200 sf. Building A is brick construction with aluminum siding façade on all of the building except the auditorium, which has a brick façade.

NATURE OF PCB CONTAMINATED MATERIAL

EH&E performed an investigation to identify suspect PCB-containing caulk and other sealants used throughout representative portions of the School. EH&E collected samples in a manner to investigate the installation and application of caulk, including an evaluation of evidence indicating caulk replacement or repair work.

Appendix A provides a figure illustrating the locations where bulk caulk as well as air and surface wipe samples were collected. Six unique types of caulk were identified, based on texture and color, and sampled. PCBs were detected at concentrations exceeding 50 ppm in 6 of the 17 caulk samples collected. Table 1 provides the bulk caulk sample results; the laboratory report is located in Appendix B.

Table 1 Analytical Results for Polychlorinated Biphenyls in Bulk Caulk Samples from Pollock Elementary School, Pollock, Louisiana, July 30, 2014

Sample ID	Description	Aroclor 1254 (ppm)	Aroclor 1260 (ppm)	Total PCBs (ppm)
154923	Aluminum window and floor in glass hallway area of Building A near auditorium entrance (gray and white)	31,700	47,100	78,800
154924	Brick to floor in glass hallway area of Building A near auditorium entrance (white)	28	6	34
154925	Door frame in glass hallway area of Building A near auditorium entrance (gray and white)	25,600	38,700	64,300
154926	Door frame in glassed hallway area of Building A near auditorium entrance (white, crumbly)	19	3	22
154927	Glass and frame on sliding glass door in glassed hallway area of Building A near auditorium entrance (gray)	3	–	3
154928	Window frame and metal exterior in glassed hallway area of Building A near auditorium entrance (above ceiling tile; gray)	22,500	27,400	49,900
154929	Window frame and metal exterior above ceiling tile in glassed hallway area of Building A near auditorium entrance (gray; duplicate to 154928)	30,900	37,900	68,800
154930	Window and brick in boys bathroom in Auditorium (gray)	ND	ND	ND
154931	Exterior door frame to brick of north entrance to auditorium building (gray)	15,000	19,100	34,100
154932	Expansion joint in floor in Building A, near auditorium entrance (gray, hard)	ND	ND	ND
154933	Expansion joint in floor in Building A, North Wing (gray, hard)	ND	ND	ND
154934	Window and sill in Building B, hallway (white, soft)	ND	ND	ND
154935	Window and sill in Building B, hallway (gray, soft)	ND	ND	ND
159436	Window and sill in Room B11 of Building B (gray, hard)	ND	ND	ND
159437	Window and sill in Room B12 of Building B (white, hard)	ND	ND	ND
159438	Auditorium north entrance interior aluminum door frame and brick (gray)	24,500	28,800	53,300
159439	Main entrance window interior aluminum window frame and brick (gray, soft)	ND	ND	ND

PCB polychlorinated biphenyl
ppm parts per million
ND non detect

1 Polychlorinated biphenyl concentration analysis performed by Alpha Analytical, Inc., Westborough, Massachusetts, using U.S. Environmental Protection Agency (EPA) Method 8082 (GC/ECD).
2 Aroclor 1016, 1221, 1232, 1242, 1248, 1262 and 1268 were also tested. All results below reporting levels, unless noted.

Photograph 1 depicts the primary PCB caulk and the typical installation detail between the metal window frame and brick wall. Caulk with elevated concentrations of PCBs was found in a limited number of locations at metal window and door frames adjacent to brick, floor, or metal wall components. Photograph 2 depicts a typical section of the School where PCB caulk was used.

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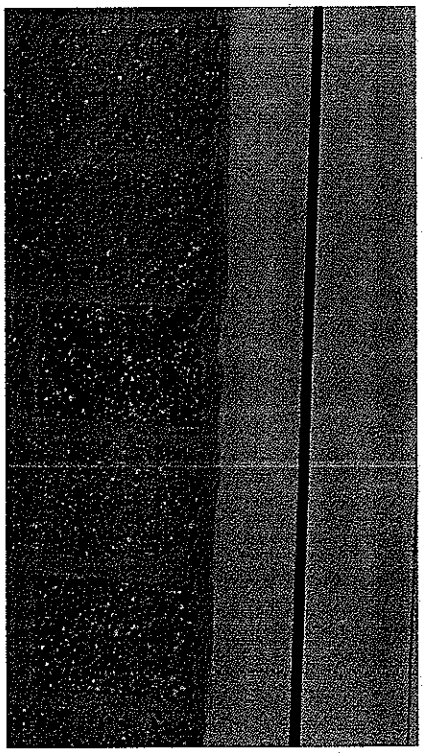
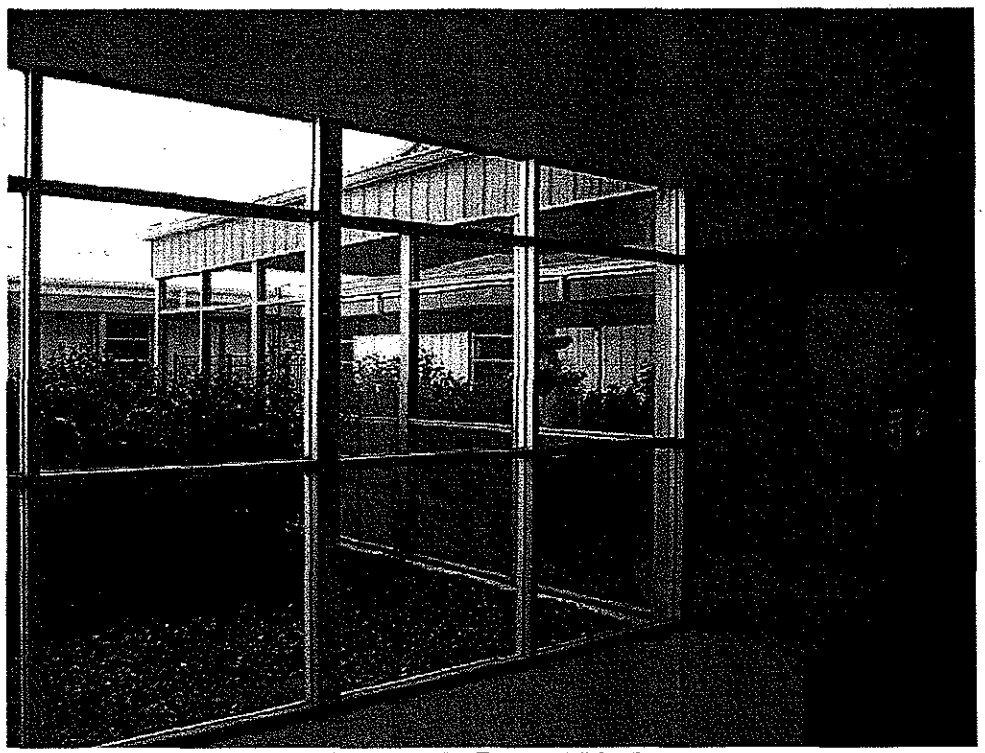


Photograph 1 Typical Caulking Detail



Photograph 2 Typical Wall Section

PROPOSED INTERIM CLEAN UP PLAN

The scope of the proposed interim clean-up plan includes removal of approximately 660 linear feet of caulk and cleaning of adjacent materials as listed in Table 2.

Table 2 Estimated Quantities of Caulk Requiring Mitigation from Pollock Elementary School, Pollock, Louisiana

Location	Installation	Estimated Linear Feet
Connector hallway	Caulk between floor and windows	137
	Caulk around doors (outside of auditorium, facing atrium)	21
	Caulk around doors (inside auditorium)	63
	Ceiling caulk	222
Side entrance (south side) -	Interior - Caulk around windows and doors	52
	Exterior- Caulk around windows and doors	52
Side entrance (north side)-	Interior - Caulk around windows and doors	56
	Exterior- Caulk around windows and doors	56
	Total	658

PCB polychlorinated biphenyl
ppm parts per million

1 Polychlorinated biphenyl concentration analysis performed by Test America, Inc., North Canton, Ohio, using U.S. Environmental Protection Agency (EPA) Method 8082 (GC/ECD).

The Grant Parish School District will undertake the following mitigation activities:

- Removal of approximately 660 linear feet of accessible PCB-containing caulk with total PCB concentrations that are greater than or equal to 50 ppm. The contractor will be required to employ measures to limit the potential spread of PCB caulk residues, such as the use of HEPA-filtered vacuum cleaners and wet removal methods, where appropriate. The work area will be isolated to prevent unauthorized entry and the flooring or ground adjacent to the work area will be protected with durable plastic sheeting or tarps to prevent the ground from becoming contaminated with PCB caulk residue.

- Upon removal of the caulk, cleaning and wipe testing of adjacent materials will be completed.

- EH&E or its representatives will collect confirmatory wipe samples from cleaned adjacent materials. If results from the wipe testing indicate PCBs at levels greater than 1 $\mu g/100\ cm^2$ on adjacent materials, the areas will be re-cleaned and retested.

- Surfaces that cannot be cleaned to the surface criterion of 1 $\mu g/100\ cm^2$ will be encapsulated with a compatible sealant. Once dry and cured, the encapsulated surfaces will be re-sealed.

- During the two year time period between completion of the interim mitigation measure and final abatement of the caulk, air and wipe samples will be collected twice per year during the summer and winter seasons. Air samples will be collected at representative areas throughout the school. Wipe samples will be collected at encapsulation sites to ensure that break-through is not occurring.

Soil samples from the building drip line have not been collected, and some of the PCB-containing caulking is located adjacent to grass or landscaping stones. Soil samples will also be collected after the interim measures are put in place to assess any spread of PCB-containing material into soil surrounding the building's exterior.

RISK ASSESSMENT

Ecological Risk

The caulk is a non-liquid form of PCBs, and there is no visual evidence that the PCB caulk has contaminated the adjacent ground. By removing and properly disposing of the caulk, and cleaning surfaces of PCB residues, the School will minimize potential exposures to human and ecological receptors.

Air Sampling

EH&E collected air samples for analysis of PCB homologs (modified EPA Method 8270D-SIM) on July 29, 2014. Two blanks and one duplicate were collected for quality assurance purposes. One outdoor air sample was collected for comparison purposes. The samples were collected with polyurethane foam (PUF) sampling media in borosilicate glass tubes (prepared and provided by Alpha Analytical, Mansfield, Massachusetts) using a calibrated air sampling pump (SKC Quick Take, SKC Inc., Eighty Four, Pennsylvania). At each location, air samples were collected to coincide with normal school hours (approximately 7 hours) at a flow rate of 1.0 liter per minute. All samples were sent to Alpha Analytical, Inc. for analysis.

Table 3 provides a summary of the air sampling data collected at the School. Air sampling locations are provided in Appendix C. The laboratory report is provided as Appendix D. Results of the air samples collected in the School indicate airborne concentrations do not exceed the screening level indoor air values provided by the EPA for elementary age school children (300 ng/m^3). The school building is used by students in grades five and six, who are typically younger than 12 years of age. Total PCB concentrations in indoor air ranged from below detection (approximately 7.7 ng/m^3) to 240 ng/m^3, with the highest level measured in a hallway alcove that is not occupied on a continuous basis by staff or students. Concentrations in the classrooms ranged from below detection to 62 ng/m^3.

Air samples from five classrooms were collected under normal operating conditions with the windows closed and the air-conditioning operating using existing thermostat settings. All room thermostats were set to approximately 72 degrees Fahrenheit (°F), and facilities staff stated that systems run 24-hours per day at that setting. Additional air samples were collected in a glassed-in hallway area that adjoins the auditorium to the hallways and classrooms of Building A. PCB-containing caulk is located in these hallways. This is the area that appears to have been an addition constructed after the original school, and the construction is similar to the entrances on the north and south side of the auditorium, which were also shown to have PCB-containing caulk.

Table 3 Summary of Air Sampling Results for Polychlorinated Biphenyls from the Pollock Elementary School, Pollock, Louisiana, July 29, 2014

Sample ID	Location	Parameter[1]	Results (ng/m^3)
154897	Hallway in front of auditorium	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	16.3
		Tetrachlorobiphenyls	56.2
		Pentachlorobiphenyls	71.6
		Hexachlorobiphenyls	38.2
		Heptachlorobiphenyls	16.7
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	199
154898	Hallway in front of auditorium (duplicate 154897)	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	19.1
		Tetrachlorobiphenyls	69.0
		Pentachlorobiphenyls	87.3
		Hexachlorobiphenyls	44.8
		Heptachlorobiphenyls	20.5
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	240
154899	Hallway connecting auditorium and classrooms	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	13.6
		Tetrachlorobiphenyls	33.3
		Pentachlorobiphenyls	36.7
		Hexachlorobiphenyls	21.4
		Heptachlorobiphenyls	11.7
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	117
158900	Classroom A6—middle wing	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	12.6
		Tetrachlorobiphenyls	20.9
		Pentachlorobiphenyls	11.7
		Hexachlorobiphenyls	10.8
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	56.0

Table 3 Continued

Sample ID	Location	Parameter[1]	Results (ng/m^3)
154901	Classroom A4—front wing	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	ND
		Tetrachlorobiphenyls	11.5
		Pentachlorobiphenyls	ND
		Hexachlorobiphenyls	ND
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	11.5
154902	Classroom A9—back wing	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	14.6
		Tetrachlorobiphenyls	24.4
		Pentachlorobiphenyls	13.5
		Hexachlorobiphenyls	9.7
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	62.2
154903	Outdoor	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	ND
		Tetrachlorobiphenyls	ND
		Pentachlorobiphenyls	ND
		Hexachlorobiphenyls	ND
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	ND
154904	Classroom B3—west wing	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	ND
		Tetrachlorobiphenyls	ND
		Pentachlorobiphenyls	ND
		Hexachlorobiphenyls	ND
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	ND

Table 3 Continued

Sample ID	Location	Parameter[1]	Results (ng/m^3)
154905	Classroom B11—east wing	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	ND
		Tetrachlorobiphenyls	ND
		Pentachlorobiphenyls	ND
		Hexachlorobiphenyls	ND
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	ND
154906	Hallway adjacent to auditorium	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	13.4
		Tetrachlorobiphenyls	23.1
		Pentachlorobiphenyls	34.4
		Hexachlorobiphenyls	21.7
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	92.4
154907	Media blank	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	ND
		Tetrachlorobiphenyls	ND
		Pentachlorobiphenyls	ND
		Hexachlorobiphenyls	ND
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	ND
154908	Media blank	Monochlorobiphenyls	ND
		Dichlorobiphenyls	ND
		Trichlorobiphenyls	ND
		Tetrachlorobiphenyls	ND
		Pentachlorobiphenyls	ND
		Hexachlorobiphenyls	ND
		Heptachlorobiphenyls	ND
		Octachlorobiphenyls	ND
		Nonachlorobiphenyls	ND
		Decachlorobiphenyl	ND
		Total Homologs	ND

ng/m^3 nanograms per cubic meter
ND non detect (10 ng/cartridge; approximate sampling volume 1.3 m^3)

1 PCB concentration analysis performed by Alpha Analytical, Mansfield, Massachusetts, using U.S. Environmental Protection Agency (EPA) Method 8270D-SIM/NOAA-M.

Surface Wipe Sampling

Surface wipe samples were also collected from 11 locations throughout the School, and were all below laboratory detection limits. Table 4 lists the locations where samples were collected. Appendix E includes the laboratory report for surface wipe sampling. The intention of the wipe samples was to assess the possible transfer of PCBs to surfaces that students and teachers may contact. Additionally, three high dust loading samples (154912, 154919, and 154921) were collected from locations expected to have longer term deposition of dust. This included a sample from the top of a trophy case located in the glassed-in area outside the auditorium (the location with PCB-containing caulk).

Table 4 Surface Wipe Sample Results for Polychlorinated Biphenyls from Pollock Elementary School, Pollock, Louisiana, July 30, 2014.

Sample ID	Description	Aroclor 1254	Aroclor 1260	Total PCBs (ug/wipe)
154909	Staining on ceiling near light ballast in teacher's lounge	ND	ND	ND
154911	Window sill in front of auditorium	ND	ND	ND
154912	Top of trophy case in front of auditorium	ND	ND	ND
154913	Auditorium chair arm rest	ND	ND	ND
154914	Auditorium podium	ND	ND	ND
154915	Classroom A6, student desk	ND	ND	ND
154916	Classroom A6, student desk (replicate)	ND	ND	ND
154917	Classroom A10 computer desk	ND	ND	ND
154918	Cafeteria table top	ND	ND	ND
154919	Classroom B3 cabinet top	ND	ND	ND
154920	Building B hallway window sill	ND	ND	ND
154921	Classroom B1 top of cabinet	ND	ND	ND
154922	Field blank	ND	ND	ND

ND non detect (RL=0.5 ug/wipe)

1 Polychlorinated biphenyl concentration analysis performed by Alpha Analytical, Westborough, MA, using U.S. Environmental Protection Agency (EPA) Method 8082.

2 Aroclor 1016, 1221, 1232, 1242, 1248, 1262 and 1268 were also tested. All results were below reporting levels.

Appendices A through D include site plans showing locations of air, wipe and bulk sample collection and lab reports. Appendix E includes a quality assurance/quality control plan for assessing continued performance of the mitigation.

If you have any comments or questions regarding this report, please contact either of us at 1-800-TALK EHE (1-800-825-5343).

Sincerely,

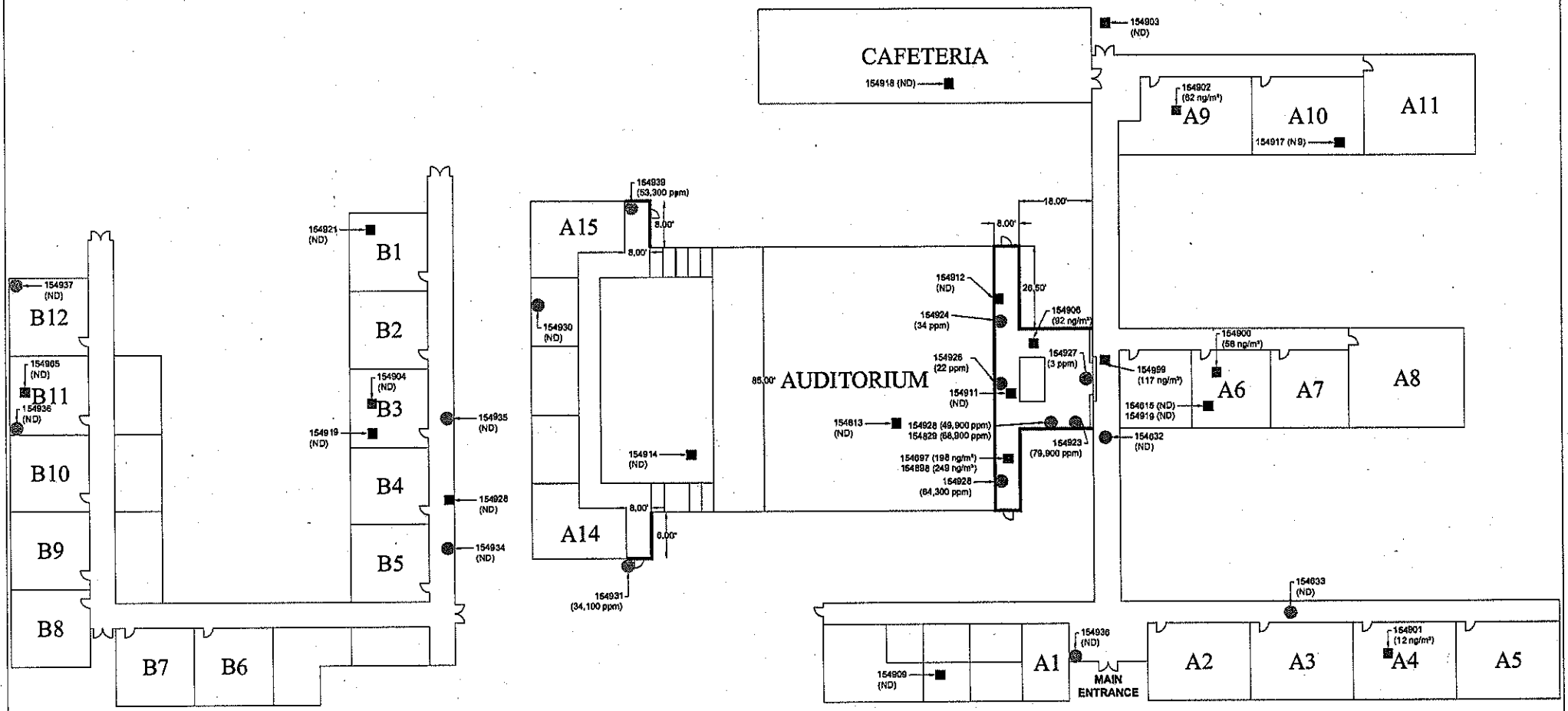
Kevin Coghlan, M.S., C.I.H.
Chief Operating Officer

David L. MacIntosh, Sc.D., C.I.H.
Chief Science Officer

Kathleen Ward Brown, Sc.D.
Staff Scientist

Appendix A Bulk, Air, and Wipe Sampling Locations
Appendix B Bulk Sample Laboratory Report
Appendix C Air Sample Laboratory Reports
Appendix D Surface Wipe Sample Laboratory Report
Appendix E Quality Assurance/Quality Control Plan
Appendix F Limitations

APPENDIX A
BULK, AIR AND WIPE SAMPLING LOCATIONS



LEGEND

- AIR SAMPLING LOCATIONS
- BULK SAMPLING LOCATIONS
- SURFACE WIPE SAMPLING LOCATIONS
- PCB-CONTAINING CAULK (≥ 50 PPM)

NOTES

1. NOT TO SCALE.
2. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
3. BASED ON EH&E'S ASSESSMENT ON JULY 30, 2014.

TITLE: BUILDING "A" & "B" AIR, BULK, & SURFACE WIPE SAMPLING LOCATIONS

CLIENT: BARON & BUDD, P.C.

LOCATION: POLLOCK ELEMENTARY SCHOOL
4001 HIGHWAY 8
POLLOCK, LOUISIANA

FIGURE ID: A.1

DATE: 7/30/14

CREATED: TQT

PROJECT: 19374

PAGE 1 OF 1

ENVIRONMENTAL HEALTH & ENGINEERING
117 Fourth Avenue
Needham, MA 01494
Tel: 781-247-4300
www.ehsinc.com

APPENDIX B
BULK SAMPLE LABORATORY REPORT

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1417111
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Taeko Minegishi
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	19374
Report Date:	08/07/14

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417111-01	154923	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-02	154924	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-03	154925	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-04	154926	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-05	154927	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-06	154928	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-07	154929	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-08	154930	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-09	154931	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-10	154932	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-11	154933	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-12	154934	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-13	154935	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-14	154936	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-15	154937	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-16	154938	SOLID	Not Specified	07/30/14 00:00	07/31/14
L1417111-17	154939	SOLID	Not Specified	07/30/14 00:00	07/31/14

Project Name:	Not Specified	**Lab Number:**	L1417111
Project Number:	19374	**Report Date:**	08/07/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	Not Specified	**Lab Number:**	L1417111
Project Number:	19374	**Report Date:**	08/07/14

Case Narrative (continued)

PCBs

L1417111-01, -03, -06, -07, -09, and -16: The surrogate recoveries are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene and decachlorobiphenyl (all 0%) due to the dilutions required to quantitate the samples. Re-extraction was not required; therefore, the results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 08/07/14

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417111-01 D
Client ID: 154923
Sample Location: Not Specified
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 08/05/14 07:34
Analyst: TQ
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 08/01/14 08:24
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	4460000	--	1000	A
Aroclor 1221	ND		ug/kg	4460000	--	1000	A
Aroclor 1232	ND		ug/kg	4460000	--	1000	A
Aroclor 1242	ND		ug/kg	4460000	--	1000	A
Aroclor 1248	ND		ug/kg	4460000	--	1000	A
Aroclor 1254	31700000		ug/kg	4460000	--	1000	B
Aroclor 1260	47100000		ug/kg	4460000	--	1000	B
Aroclor 1262	ND		ug/kg	4460000	--	1000	A
Aroclor 1268	ND		ug/kg	4460000	--	1000	A
PCBs, Total	78800000		ug/kg	4460000	--	1000	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-02	D	Date Collected:	07/30/14 00:00
Client ID:	154924		Date Received:	07/31/14
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3540C
Analytical Method:	1,8082A		Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 12:53		Cleanup Method:	EPA 3630
Analyst:	TQ		Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method:	EPA 3665A
			Cleanup Date:	08/06/14
			Cleanup Method:	EPA 3660B
			Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	4330	--	2	A
Aroclor 1221	ND		ug/kg	4330	--	2	A
Aroclor 1232	ND		ug/kg	4330	--	2	A
Aroclor 1242	ND		ug/kg	4330	--	2	B
Aroclor 1248	ND		ug/kg	4330	--	2	A
Aroclor 1254	27900		ug/kg	4330	--	2	B
Aroclor 1260	6080		ug/kg	4330	--	2	B
Aroclor 1262	ND		ug/kg	4330	--	2	A
Aroclor 1268	ND		ug/kg	4330	--	2	A
PCBs, Total	34000		ug/kg	4330	--	2	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	87		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-03	D	Date Collected:	07/30/14 00:00
Client ID:	154925		Date Received:	07/31/14
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3580A
Analytical Method:	1,8082A		Extraction Date:	08/01/14 08:24
Analytical Date:	08/05/14 07:48		Cleanup Method:	EPA 3665A
Analyst:	TQ		Cleanup Date:	08/02/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method:	EPA 3660B
			Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	4130000	--	1000	A
Aroclor 1221	ND		ug/kg	4130000	--	1000	A
Aroclor 1232	ND		ug/kg	4130000	--	1000	A
Aroclor 1242	ND		ug/kg	4130000	--	1000	A
Aroclor 1248	ND		ug/kg	4130000	--	1000	A
Aroclor 1254	25600000		ug/kg	4130000	--	1000	B
Aroclor 1260	38700000		ug/kg	4130000	--	1000	B
Aroclor 1262	ND		ug/kg	4130000	--	1000	A
Aroclor 1268	ND		ug/kg	4130000	--	1000	A
PCBs, Total	64300000		ug/kg	4130000	--	1000	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-04	Date Collected:	07/30/14 00:00
Client ID:	154926	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 04:44	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2190	--	1	A
Aroclor 1221	ND		ug/kg	2190	--	1	A
Aroclor 1232	ND		ug/kg	2190	--	1	A
Aroclor 1242	ND		ug/kg	2190	--	1	B
Aroclor 1246	ND		ug/kg	2190	--	1	A
Aroclor 1254	18800		ug/kg	2190	--	1	A
Aroclor 1260	3470		ug/kg	2190	--	1	A
Aroclor 1262	ND		ug/kg	2190	--	1	A
Aroclor 1268	ND		ug/kg	2190	--	1	A
PCBs, Total	22300		ug/kg	2190	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	82		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-05	Date Collected:	07/30/14 00:00
Client ID:	154927	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 04:58	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2290	--	1	A
Aroclor 1221	ND		ug/kg	2290	--	1	A
Aroclor 1232	ND		ug/kg	2290	--	1	A
Aroclor 1242	ND		ug/kg	2290	--	1	B
Aroclor 1248	ND		ug/kg	2290	--	1	A
Aroclor 1254	2980		ug/kg	2290	--	1	B
Aroclor 1260	ND		ug/kg	2290	--	1	A
Aroclor 1262	ND		ug/kg	2290	--	1	A
Aroclor 1268	ND		ug/kg	2290	--	1	A
PCBs, Total	2980		ug/kg	2290	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	52		30-150	A
Decachlorobiphenyl	46		30-150	A
2,4,5,6-Tetrachloro-m-xylene	50		30-150	B
Decachlorobiphenyl	49		30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-06	D	Date Collected:	07/30/14 00:00
Client ID:	154928		Date Received:	07/31/14
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3580A
Analytical Method:	1,8082A		Extraction Date:	08/01/14 08:24
Analytical Date:	08/05/14 08:01		Cleanup Method:	EPA 3665A
Analyst:	TQ		Cleanup Date:	08/02/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method:	EPA 3660B
			Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	1700000	--	500	A
Aroclor 1221	ND		ug/kg	1700000	--	500	A
Aroclor 1232	ND		ug/kg	1700000	--	500	A
Aroclor 1242	ND		ug/kg	1700000	--	500	A
Aroclor 1248	ND		ug/kg	1700000	--	500	A
Aroclor 1254	22500000		ug/kg	1700000	--	500	B
Aroclor 1260	27400000		ug/kg	1700000	--	500	B
Aroclor 1262	ND		ug/kg	1700000	--	500	A
Aroclor 1268	ND		ug/kg	1700000	--	500	A
PCBs, Total	49900000		ug/kg	1700000	--	500	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417111-07 D
Client ID: 154929
Sample Location: Not Specified
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 08/05/14 08:14
Analyst: TQ
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 08/01/14 08:24
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	4500000	--	1000	A
Aroclor 1221	ND		ug/kg	4500000	--	1000	A
Aroclor 1232	ND		ug/kg	4500000	--	1000	A
Aroclor 1242	ND		ug/kg	4500000	--	1000	A
Aroclor 1248	ND		ug/kg	4500000	--	1000	A
Aroclor 1254	30900000		ug/kg	4500000	--	1000	B
Aroclor 1260	37900000		ug/kg	4500000	--	1000	B
Aroclor 1262	ND		ug/kg	4500000	--	1000	A
Aroclor 1268	ND		ug/kg	4500000	--	1000	A
PCBs, Total	68800000		ug/kg	4500000	--	1000	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-08
Client ID:	154930
Sample Location:	Not Specified
Matrix:	Solid
Analytical Method:	1,8082A
Analytical Date:	08/07/14 05:12
Analyst:	TQ
Percent Solids:	Results reported on an 'AS RECEIVED' basis.

Date Collected:	07/30/14 00:00
Date Received:	07/31/14
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	08/05/14 14:26
Cleanup Method:	EPA 3630
Cleanup Date:	08/06/14
Cleanup Method:	EPA 3665A
Cleanup Date:	08/06/14
Cleanup Method:	EPA 3660B
Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	6410	--	1	A
Aroclor 1221	ND		ug/kg	6410	--	1	A
Aroclor 1232	ND		ug/kg	6410	--	1	A
Aroclor 1242	ND		ug/kg	6410	--	1	A
Aroclor 1248	ND		ug/kg	6410	--	1	A
Aroclor 1254	ND		ug/kg	6410	--	1	B
Aroclor 1260	ND		ug/kg	6410	--	1	A
Aroclor 1262	ND		ug/kg	6410	--	1	A
Aroclor 1268	ND		ug/kg	6410	--	1	A
PCBs, Total	ND		ug/kg	6410	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	85		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-09	D	Date Collected:	07/30/14 00:00
Client ID:	154931		Date Received:	07/31/14
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3580A
Analytical Method:	1,8082A		Extraction Date:	08/01/14 08:24
Analytical Date:	08/05/14 08:28		Cleanup Method:	EPA 3665A
Analyst:	TQ		Cleanup Date:	08/02/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method:	EPA 3660B
			Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	1970000	--	500	A
Aroclor 1221	ND		ug/kg	1970000	--	500	A
Aroclor 1232	ND		ug/kg	1970000	--	500	A
Aroclor 1242	ND		ug/kg	1970000	--	500	A
Aroclor 1248	ND		ug/kg	1970000	--	500	A
Aroclor 1254	15000000		ug/kg	1970000	--	500	B
Aroclor 1260	19100000		ug/kg	1970000	--	500	B
Aroclor 1262	ND		ug/kg	1970000	--	500	A
Aroclor 1268	ND		ug/kg	1970000	--	500	A
PCBs, Total	34100000		ug/kg	1970000	--	500	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	A
Decachlorobiphenyl	**0**	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	**0**	Q	30-150	B
Decachlorobiphenyl	**0**	Q	30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417111-10
Client ID: 154932
Sample Location: Not Specified
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 08/07/14 05:25
Analyst: TQ
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/05/14 14:26
Cleanup Method: EPA 3630
Cleanup Date: 08/06/14
Cleanup Method: EPA 3665A
Cleanup Date: 08/06/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2450	--	1	A
Aroclor 1221	ND		ug/kg	2450	--	1	A
Aroclor 1232	ND		ug/kg	2450	--	1	A
Aroclor 1242	ND		ug/kg	2450	--	1	A
Aroclor 1248	ND		ug/kg	2450	--	1	A
Aroclor 1254	ND		ug/kg	2450	--	1	A
Aroclor 1260	ND		ug/kg	2450	--	1	A
Aroclor 1262	ND		ug/kg	2450	--	1	A
Aroclor 1268	ND		ug/kg	2450	--	1	A
PCBs, Total	ND		ug/kg	2450	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	82		30-150	B
Decachlorobiphenyl	81		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-11	Date Collected:	07/30/14 00:00
Client ID:	154933	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 05:39	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	1890	--	1	A
Aroclor 1221	ND		ug/kg	1890	--	1	A
Aroclor 1232	ND		ug/kg	1890	--	1	A
Aroclor 1242	ND		ug/kg	1890	--	1	A
Aroclor 1248	ND		ug/kg	1890	--	1	A
Aroclor 1254	ND		ug/kg	1890	--	1	A
Aroclor 1260	ND		ug/kg	1890	--	1	A
Aroclor 1262	ND		ug/kg	1890	--	1	A
Aroclor 1268	ND		ug/kg	1890	--	1	A
PCBs, Total	ND		ug/kg	1890	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	82		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-12	Date Collected:	07/30/14 00:00
Client ID:	154934	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 05:53	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2380	--	1	A
Aroclor 1221	ND		ug/kg	2380	--	1	A
Aroclor 1232	ND		ug/kg	2380	--	1	A
Aroclor 1242	ND		ug/kg	2380	--	1	A
Aroclor 1248	ND		ug/kg	2380	--	1	A
Aroclor 1254	ND		ug/kg	2380	--	1	A
Aroclor 1260	ND		ug/kg	2380	--	1	A
Aroclor 1262	ND		ug/kg	2380	--	1	A
Aroclor 1268	ND		ug/kg	2380	--	1	A
PCBs, Total	ND		ug/kg	2380	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	76		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-13	Date Collected:	07/30/14 00:00
Client ID:	154935	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 06:07	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2180	--	1	A
Aroclor 1221	ND		ug/kg	2180	--	1	A
Aroclor 1232	ND		ug/kg	2180	--	1	A
Aroclor 1242	ND		ug/kg	2180	--	1	A
Aroclor 1248	ND		ug/kg	2180	--	1	A
Aroclor 1254	ND		ug/kg	2180	--	1	A
Aroclor 1260	ND		ug/kg	2180	--	1	A
Aroclor 1262	ND		ug/kg	2180	--	1	A
Aroclor 1268	ND		ug/kg	2180	--	1	A
PCBs, Total	ND		ug/kg	2180	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-14
Client ID:	154936
Sample Location:	Not Specified
Matrix:	Solid
Analytical Method:	1,8082A
Analytical Date:	08/07/14 06:20
Analyst:	TQ
Percent Solids:	Results reported on an 'AS RECEIVED' basis.

Date Collected:	07/30/14 00:00
Date Received:	07/31/14
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	08/05/14 14:26
Cleanup Method:	EPA 3630
Cleanup Date:	08/06/14
Cleanup Method:	EPA 3665A
Cleanup Date:	08/06/14
Cleanup Method:	EPA 3660B
Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2450	--	1	A
Aroclor 1221	ND		ug/kg	2450	--	1	A
Aroclor 1232	ND		ug/kg	2450	--	1	A
Aroclor 1242	ND		ug/kg	2450	--	1	A
Aroclor 1248	ND		ug/kg	2450	--	1	A
Aroclor 1254	ND		ug/kg	2450	--	1	A
Aroclor 1260	ND		ug/kg	2450	--	1	A
Aroclor 1262	ND		ug/kg	2450	--	1	A
Aroclor 1268	ND		ug/kg	2450	--	1	A
PCBs, Total	ND		ug/kg	2450	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	75		30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-15	Date Collected:	07/30/14 00:00
Client ID:	154937	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 06:34	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2140	--	1	A
Aroclor 1221	ND		ug/kg	2140	--	1	A
Aroclor 1232	ND		ug/kg	2140	--	1	A
Aroclor 1242	ND		ug/kg	2140	--	1	A
Aroclor 1248	ND		ug/kg	2140	--	1	A
Aroclor 1254	ND		ug/kg	2140	--	1	A
Aroclor 1260	ND		ug/kg	2140	--	1	A
Aroclor 1262	ND		ug/kg	2140	--	1	A
Aroclor 1268	ND		ug/kg	2140	--	1	A
PCBs, Total	ND		ug/kg	2140	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	87		30-150	A
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	85		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-16	D	Date Collected:	07/30/14 00:00
Client ID:	154938		Date Received:	07/31/14
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Solid		Extraction Method:	EPA 3580A
Analytical Method:	1,8082A		Extraction Date:	08/01/14 08:24
Analytical Date:	08/05/14 08:41		Cleanup Method:	EPA 3665A
Analyst:	TQ		Cleanup Date:	08/02/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.		Cleanup Method:	EPA 3660B
			Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	1880000	--	500	A
Aroclor 1221	ND		ug/kg	1880000	--	500	A
Aroclor 1232	ND		ug/kg	1880000	--	500	A
Aroclor 1242	ND		ug/kg	1880000	--	500	A
Aroclor 1248	ND		ug/kg	1880000	--	500	A
Aroclor 1254	24500000		ug/kg	1880000	--	500	B
Aroclor 1260	28800000		ug/kg	1880000	--	500	B
Aroclor 1262	ND		ug/kg	1880000	--	500	A
Aroclor 1268	ND		ug/kg	1880000	--	500	A
PCBs, Total	53300000		ug/kg	1880000	--	500	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417111
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417111-17	Date Collected:	07/30/14 00:00
Client ID:	154939	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Solid	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/05/14 14:26
Analytical Date:	08/07/14 06:47	Cleanup Method:	EPA 3630
Analyst:	TQ	Cleanup Date:	08/06/14
Percent Solids:	Results reported on an 'AS RECEIVED' basis.	Cleanup Method:	EPA 3665A
		Cleanup Date:	08/06/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	2480	--	1	A
Aroclor 1221	ND		ug/kg	2480	--	1	A
Aroclor 1232	ND		ug/kg	2480	--	1	A
Aroclor 1242	ND		ug/kg	2480	--	1	A
Aroclor 1248	ND		ug/kg	2480	--	1	A
Aroclor 1254	ND		ug/kg	2480	--	1	A
Aroclor 1260	ND		ug/kg	2480	--	1	A
Aroclor 1262	ND		ug/kg	2480	--	1	A
Aroclor 1268	ND		ug/kg	2480	--	1	A
PCBs, Total	ND		ug/kg	2480	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	35		30-150	A
Decachlorobiphenyl	**29**	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	35		30-150	B
Decachlorobiphenyl	34		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/04/14 01:56
Analyst: TQ

Extraction Method: EPA 3580A
Extraction Date: 08/01/14 08:24

Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
PCB by GC - Westborough Lab for sample(s): 01,03,06-07,09,16 Batch: WG710506-1						
Aroclor 1016	ND		ug/kg	2580	--	A
Aroclor 1221	ND		ug/kg	2580	--	A
Aroclor 1232	ND		ug/kg	2580	--	A
Aroclor 1242	ND		ug/kg	2580	--	A
Aroclor 1248	ND		ug/kg	2580	--	A
Aroclor 1254	ND		ug/kg	2580	--	A
Aroclor 1260	ND		ug/kg	2580	--	A
Aroclor 1262	ND		ug/kg	2580	--	A
Aroclor 1268	ND		ug/kg	2580	--	A
PCBs, Total	ND		ug/kg	2580	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	123		30-150	A
Decachlorobiphenyl	135		30-150	A
2,4,5,6-Tetrachloro-m-xylene	112		30-150	B
Decachlorobiphenyl	129		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/07/14 07:01
Analyst: TQ

Extraction Method: EPA 3540C
Extraction Date: 08/05/14 14:26
Cleanup Method: EPA 3630
Cleanup Date: 08/06/14
Cleanup Method: EPA 3665A
Cleanup Date: 08/06/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/06/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
PCB by GC - Westborough Lab for sample(s): 02,04-05,08,10-15,17 Batch: WG711338-1						
Aroclor 1016	ND		ug/kg	2040	--	A
Aroclor 1221	ND		ug/kg	2040	--	A
Aroclor 1232	ND		ug/kg	2040	--	A
Aroclor 1242	ND		ug/kg	2040	--	A
Aroclor 1248	ND		ug/kg	2040	--	A
Aroclor 1254	ND		ug/kg	2040	--	A
Aroclor 1260	ND		ug/kg	2040	--	A
Aroclor 1262	ND		ug/kg	2040	--	A
Aroclor 1268	ND		ug/kg	2040	--	A
PCBs, Total	ND		ug/kg	2040	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	71		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	70		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
PCB by GC - Westborough Lab Associated sample(s): 01,03,06-07,09,16 Batch: WG710506-2 WG710506-3									
Aroclor 1016	105		109		40-140	4		50	A
Aroclor 1260	105		114		40-140	8		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	121		132		30-150	A
Decachlorobiphenyl	135		149		30-150	A
2,4,5,6-Tetrachloro-m-xylene	112		122		30-150	B
Decachlorobiphenyl	126		136		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
PCB by GC - Westborough Lab Associated sample(s): 02,04-05,08,10-15,17 Batch: WG711338-2 WG711338-3									
Aroclor 1016	91		87		40-140	4		50	A
Aroclor 1260	105		99		40-140	6		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99		93		30-150	A
Decachlorobiphenyl	98		91		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		86		30-150	B
Decachlorobiphenyl	94		87		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417111
Report Date: 08/07/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417111-01A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-02A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-03A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-04A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-05A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-06A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-07A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-08A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-09A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-10A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-11A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-12A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-13A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-14A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-15A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-16A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)
L1417111-17A	Amber 120ml unpreserved	A	N/A	2.0	Y	Absent	PCB-8082-CAULK(14)

*Values in parentheses indicate holding time in days

Project Name: Not Specified **Lab Number:** L1417111

Project Number: 19374 **Report Date:** 08/07/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417111
Report Date: 08/07/14

Data Qualifiers

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417111
Report Date: 08/07/14

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA **200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA **300.0**: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA **332**: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA **200.8**: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA **200.7**: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA **350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA **353.2**: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA **624**: Volatile Halocarbons & Aromatics,
EPA **608**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA **625**: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

L1417[illegible] Serial_No:08071416:09

DATE: 7/30/14

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha Analytical

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 19374

The cost of this analysis will be covered by EH&E Purchase Order # _____

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
154923	BULK	EPA 8082 PCB soxhlet	7/30/14
154924	↓	extraction ↓	↓
154925			
154926			
154927			
154928			
154929			
154930			
154931			
154932			
154933			
154934			
154935			
154936			
154937			
154938	↓	↓	↓

Special instructions:

☒ Standard turn around time ☐ Rush by _____ (date/time) ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES**

☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient tminegishi@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: [signature] of Environmental Health & Engineering, Inc. Date: 7/30/14

Received by: Kim Obeali - Alpha of (company name) Alpha Date: 7/31/14 922

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Serial No:08071416:09

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 7/30/14

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha Analytical

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 19374

The cost of this analysis will be covered by EH&E Purchase Order # _____

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
154939	BULK	EPA 8082 PcB soxhlet extraction	7/30/14

Special Instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient tmineyishi@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/30/14

Received by: _____ of (company name) Alpha Date: 7/31/14 922

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 2 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

APPENDIX C
AIR SAMPLE LABORATORY REPORTS

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1417001
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Taeko Minegishi
Phone:	(781) 247-4300
Project Name:	19374
Project Number:	19374
Report Date:	08/04/14

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417001-01	154898	AIR MEDIA	Not Specified		07/30/14
L1417001-02	154901	AIR MEDIA	Not Specified		07/30/14
L1417001-03	154902	AIR MEDIA	Not Specified		07/30/14
L1417001-04	154903	AIR MEDIA	Not Specified		07/30/14
L1417001-05	154904	AIR MEDIA	Not Specified		07/30/14
L1417001-06	154905	AIR MEDIA	Not Specified		07/30/14
L1417001-07	154907	AIR MEDIA	Not Specified		07/30/14
L1417001-08	154908	AIR MEDIA	Not Specified		07/30/14

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Case Narrative (continued)

PCBs in Air

Sample L1417001-01 had a non-target peak removed from the range of the Trichlorobiphenyl result.

The WG709972-2 LCS recovery for Cl2-BZ#4/#10 (154%), associated with L1417001-01 through -08, is outside the acceptance criteria for individual target compounds, but within the overall method allowances.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Porta

Title: Technical Director/Representative

Date: 08/04/14

ORGANICS

PCBS

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

SAMPLE RESULTS

Lab ID: L1417001-01
Client ID: 154898
Sample Location: Not Specified
Matrix: Air Media
Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 08/01/14 01:31
Analyst: CM

Date Collected:
Date Received: 07/30/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	25.6		ng/cart	10.0	--	1
Tetrachlorobiphenyls	92.4		ng/cart	10.0	--	1
Pentachlorobiphenyls	117		ng/cart	10.0	--	1
Hexachlorobiphenyls	60.0		ng/cart	10.0	--	1
Heptachlorobiphenyls	27.4		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	322		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	103		50-125
Cl8-BZ#202-C13	99		50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

SAMPLE RESULTS

Lab ID: L1417001-02
Client ID: 154901
Sample Location: Not Specified
Matrix: Air Media
Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 08/01/14 02:45
Analyst: CM

Date Collected:
Date Received: 07/30/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	15.0		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	15.0		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	102		50-125
Cl8-BZ#202-C13	95		50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

SAMPLE RESULTS

Lab ID: L1417001-03
Client ID: 154902
Sample Location: Not Specified
Matrix: Air Media
Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 08/01/14 03:59
Analyst: CM

Date Collected:
Date Received: 07/30/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	18.9		ng/cart	10.0	--	1
Tetrachlorobiphenyls	31.5		ng/cart	10.0	--	1
Pentachlorobiphenyls	17.5		ng/cart	10.0	--	1
Hexachlorobiphenyls	12.5		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	80.4		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	96		50-125
Cl8-BZ#202-C13	93		50-125

Project Name: 19374 **Lab Number:** L1417001

Project Number: 19374 **Report Date:** 08/04/14

SAMPLE RESULTS

Lab ID:	L1417001-04	Date Collected:	
Client ID:	154903	Date Received:	07/30/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Media	Extraction Method:	EPA 3540C
Analytical Method:	105,8270D-SIM/NOAA-M	Extraction Date:	07/30/14 17:25
Analytical Date:	08/01/14 05:12		
Analyst:	CM		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	103		50-125
Cl8-BZ#202-C13	97		50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

SAMPLE RESULTS

Lab ID: L1417001-05
Client ID: 154904
Sample Location: Not Specified
Matrix: Air Media
Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 08/01/14 06:26
Analyst: CM

Date Collected:
Date Received: 07/30/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	100		50-125
Cl8-BZ#202-C13	104		50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

SAMPLE RESULTS

Lab ID: L1417001-06
Client ID: 154905
Sample Location: Not Specified
Matrix: Air Media
Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 08/01/14 07:40
Analyst: CM

Date Collected:
Date Received: 07/30/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	106		50-125
Cl8-BZ#202-C13	100		50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

SAMPLE RESULTS

Lab ID: L1417001-07
Client ID: 154907
Sample Location: Not Specified
Matrix: Air Media
Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 08/01/14 08:53
Analyst: CM

Date Collected:
Date Received: 07/30/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	106		50-125
Cl8-BZ#202-C13	103		50-125

Project Name: 19374 **Lab Number:** L1417001

Project Number: 19374 **Report Date:** 08/04/14

SAMPLE RESULTS

Lab ID:	L1417001-08	Date Collected:	
Client ID:	154908	Date Received:	07/30/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Media	Extraction Method:	EPA 3540C
Analytical Method:	105,8270D-SIM/NOAA-M	Extraction Date:	07/30/14 17:25
Analytical Date:	08/01/14 10:07		
Analyst:	CM		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	106		50-125
Cl8-BZ#202-C13	103		50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270D-SIM/NOAA-M
Analytical Date: 07/31/14 15:52
Analyst: CM

Extraction Method: EPA 3540C
Extraction Date: 07/30/14 17:25

Parameter	Result	Qualifier	Units	RL	MDL
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab for sample(s): 01-08 Batch: WG709972-1					
Monochlorobiphenyls	ND		ng/cart	10.0	--
Dichlorobiphenyls	ND		ng/cart	10.0	--
Trichlorobiphenyls	ND		ng/cart	10.0	--
Tetrachlorobiphenyls	ND		ng/cart	10.0	--
Pentachlorobiphenyls	ND		ng/cart	10.0	--
Hexachlorobiphenyls	ND		ng/cart	10.0	--
Heptachlorobiphenyls	ND		ng/cart	10.0	--
Octachlorobiphenyls	ND		ng/cart	10.0	--
Nonachlorobiphenyls	ND		ng/cart	10.0	--
Decachlorobiphenyl	ND		ng/cart	10.0	--
Total Homologs	ND		ng/cart	10.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	102		50-125
Cl8-BZ#202-C13	98		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-08 Batch: WG709972-2								
Cl1-BZ#1	126		-		40-140	-		30
CL1-BZ#3	124		-		40-140	-		30
Cl2-BZ#4/#10	154	Q	-		40-140	-		30
Cl2-BZ#8	127		-		40-140	-		30
Cl3-BZ#19	122		-		40-140	-		30
Cl3-BZ#18	115		-		40-140	-		30
Cl2-BZ#15	109		-		40-140	-		30
Cl4-BZ#54	124		-		40-140	-		30
Cl3-BZ#29	113		-		40-140	-		30
Cl4-BZ#50	112		-		40-140	-		30
Cl3-BZ#-31	123		-		40-140	-		30
Cl3-BZ#28	113		-		40-140	-		30
Cl4-BZ#45	129		-		40-140	-		30
Cl4-BZ#52	114		-		40-140	-		30
Cl4-BZ#49	119		-		40-140	-		30
Cl5-BZ#104	132		-		40-140	-		30
Cl4-BZ#47	111		-		40-140	-		30
Cl4-BZ#44	115		-		40-140	-		30
Cl3-BZ#37	69		-		40-140	-		30
Cl5-BZ#121/#95/#88	94		-		40-140	-		30
Cl4-BZ#74	104		-		40-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-08 Batch: WG709972-2								
Cl6-BZ#155	111		-		40-140	-		30
Cl4-BZ#70	104		-		40-140	-		30
Cl4-BZ#66	115		-		40-140	-		30
Cl5-BZ#101/#90	108		-		40-140	-		30
Cl4-BZ#56	108		-		40-140	-		30
Cl5-BZ#99	108		-		40-140	-		30
Cl5-BZ#87/#111	90		-		40-140	-		30
Cl6-BZ#154	107		-		40-140	-		30
Cl5-BZ#110	112		-		40-140	-		30
Cl4-BZ#81	102		-		40-140	-		30
Cl6-BZ#151	112		-		40-140	-		30
Cl6-BZ#147/#149	122		-		40-140	-		30
Cl4-BZ#77	117		-		40-140	-		30
Cl5-BZ#107/#123	130		-		40-140	-		30
Cl7-BZ#188	106		-		40-140	-		30
Cl5-BZ#118	103		-		40-140	-		30
Cl6-BZ#146	100		-		40-140	-		30
Cl5-BZ#114	110		-		40-140	-		30
Cl6-BZ#153	125		-		40-140	-		30
Cl5-BZ#105	84		-		40-140	-		30
Cl6-BZ#138	101		-		40-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-08 Batch: WG709972-2								
Cl6-BZ#129/#158	129		-		40-140	-		30
Cl7-BZ#187	114		-		40-140	-		30
Cl7-BZ#183	114		-		40-140	-		30
Cl5-BZ#126	70		-		40-140	-		30
Cl7-BZ#174	115		-		40-140	-		30
Cl6-BZ#128	110		-		40-140	-		30
Cl6-BZ#167	128		-		40-140	-		30
Cl8-BZ#202	131		-		40-140	-		30
Cl7-BZ#177	106		-		40-140	-		30
Cl8-BZ#204/#200-CAL	112		-		40-140	-		30
Cl6-BZ#156	106		-		40-140	-		30
Cl6-BZ#157	110		-		40-140	-		30
Cl7-BZ#180	104		-		40-140	-		30
Cl8-BZ#201	110		-		40-140	-		30
Cl7-BZ#170	110		-		40-140	-		30
Cl6-BZ#169	89		-		40-140	-		30
Cl9-BZ#208	107		-		40-140	-		30
Cl7-BZ#189	106		-		40-140	-		30
Cl8-BZ#195	100		-		40-140	-		30
Cl8-BZ#194	98		-		40-140	-		30
Cl8-BZ#205	98		-		40-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-08 Batch: WG709972-2								
Cl9-BZ#206	95		-		40-140	-		30
Cl10-BZ#209	104		-		40-140	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	108				50-125
Cl8-BZ#202-C13	105				50-125

Project Name: 19374
Project Number: 19374

Lab Number: L1417001
Report Date: 08/04/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417001-01A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-02A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-03A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-04A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-05A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-06A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-07A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)
L1417001-08A	PUF Air Cartridge (PCB) - Low	A	N/A	2.9	Y	Absent	A2-PCBHOMS-8270SIML(7)

*Values in parentheses indicate holding time in days

Project Name: 19374 **Lab Number:** L1417001

Project Number: 19374 **Report Date:** 08/04/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report

Project Name:	19374	**Lab Number:**	L1417001
Project Number:	19374	**Report Date:**	08/04/14

Data Qualifiers

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: 19374 **Lab Number:** L1417001
Project Number: 19374 **Report Date:** 08/04/14

REFERENCES

105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with NOAA Technical Memorandum NMFS-NWFSC-59: Extraction, Cleanup and GC/MS Analysis of Sediments and Tissues for Organic Contaminants, March 2004 and the Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680, EPA 01A0005295, November 1985.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial_No:08041420431700 1

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 7/29/14

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha Analytical

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 19374

The cost of this analysis will be covered by EH&E Purchase Order # _____

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
154897	AIR	PCB Homolog Analysis	1314.9L
154898			1339.5
154899			1327.6
154900			1329.0
154901			1312.4
154902			1292.1
154903			1278.7
154904			1335.7
154905			1340.9
154906			1265.9
154907			0
154908			0

Special Instructions:

☐ Standard turn around time ☐ Rush by _____ date/time ☒ Other Will call 7/30 morning

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient tminegishi@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/29/14 via FedEx

Received by: _____ of (company name) Alpha Date: 7/30/14 11:00

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Serial_No:08041420431001

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 7/29/14

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha Analytical

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 19374

The cost of this analysis will be covered by EH&E Purchase Order # _____

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
154897	AIR	PCB Homolog Analysis	1314.9L
154898			1339.5
154899			1327.6
154900			1329.0
154901			1312.4
154902			1292.1
154903			1298.7
154904			1335.7
154905			1340.9
154906			1265.9
154907			0
154908			0

Special instructions:

☐ Standard turn around time ☐ Rush by _____ date/time ☒ Other Will call 7/30 morning

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient tminegishi@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/29/14

Received by: _____ of (company name) Alpha Date: 7/30/14 11:00 via FedEx

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

APPENDIX D
WIPE SAMPLE LABORATORY REPORT

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1417106
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Taeko Minegishi
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	19374
Report Date:	08/07/14

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1417106-01	154909	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-02	154911	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-03	154912	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-04	154913	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-05	154914	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-06	154915	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-07	154916	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-08	154917	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-09	154918	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-10	154919	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-11	154920	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-12	154921	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-13	154922	WIPE	Not Specified	07/30/14 00:00	07/31/14
L1417106-14	154910	WIPE	Not Specified	07/30/14 00:00	07/31/14

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

Case Narrative (continued)

PCBs

The WG710449-1 Method Blank, associated with L1417106-01 through -14, has a concentration above the reporting limit for aroclor 1254. Since the samples were non-detect for this target analyte, no further actions were taken. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative

Date: 08/07/14

ORGANICS

PCBS

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417106-01	Date Collected:	07/30/14 00:00
Client ID:	154909	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/01/14 01:22
Analytical Date:	08/04/14 12:02	Cleanup Method:	EPA 3665A
Analyst:	JT	Cleanup Date:	08/02/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	A
Decachlorobiphenyl	55		30-150	A
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417106-02
Client ID:	154911
Sample Location:	Not Specified
Matrix:	Wipe
Analytical Method:	1,8082A
Analytical Date:	08/04/14 12:15
Analyst:	JT

Date Collected:	07/30/14 00:00
Date Received:	07/31/14
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	08/01/14 01:22
Cleanup Method:	EPA 3665A
Cleanup Date:	08/02/14
Cleanup Method:	EPA 3660B
Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1266	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	52		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		30-150	B
Decachlorobiphenyl	67		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-03
Client ID: 154912
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 12:28
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	52		30-150	A
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417106-04	Date Collected:	07/30/14 00:00
Client ID:	154913	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/01/14 01:22
Analytical Date:	08/04/14 12:42	Cleanup Method:	EPA 3665A
Analyst:	JT	Cleanup Date:	08/02/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	55		30-150	A
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-05
Client ID: 154914
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 12:55
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417106-06	Date Collected:	07/30/14 00:00
Client ID:	154915	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/01/14 01:22
Analytical Date:	08/04/14 13:08	Cleanup Method:	EPA 3665A
Analyst:	JT	Cleanup Date:	08/02/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	74		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-07
Client ID: 154916
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 13:22
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	75		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-08
Client ID: 154917
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 13:35
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	75		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-09
Client ID: 154918
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 13:48
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	43		30-150	A
Decachlorobiphenyl	43		30-150	A
2,4,5,6-Tetrachloro-m-xylene	44		30-150	B
Decachlorobiphenyl	51		30-150	B

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417106-10	Date Collected:	07/30/14 00:00
Client ID:	154919	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/01/14 01:22
Analytical Date:	08/04/14 14:02	Cleanup Method:	EPA 3665A
Analyst:	JT	Cleanup Date:	08/02/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	77		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-11
Client ID: 154920
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 14:15
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	61		30-150	A
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	74		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID:	L1417106-12	Date Collected:	07/30/14 00:00
Client ID:	154921	Date Received:	07/31/14
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	08/01/14 01:22
Analytical Date:	08/04/14 14:28	Cleanup Method:	EPA 3665A
Analyst:	JT	Cleanup Date:	08/02/14
		Cleanup Method:	EPA 3660B
		Cleanup Date:	08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	78		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-13
Client ID: 154922
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 14:42
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	60		30-150	A
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	72		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

SAMPLE RESULTS

Lab ID: L1417106-14
Client ID: 154910
Sample Location: Not Specified
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 08/04/14 14:55
Analyst: JT

Date Collected: 07/30/14 00:00
Date Received: 07/31/14
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	--	1	A
Aroclor 1221	ND		ug Abs	0.500	--	1	A
Aroclor 1232	ND		ug Abs	0.500	--	1	A
Aroclor 1242	ND		ug Abs	0.500	--	1	A
Aroclor 1248	ND		ug Abs	0.500	--	1	A
Aroclor 1254	ND		ug Abs	0.500	--	1	A
Aroclor 1260	ND		ug Abs	0.500	--	1	A
Aroclor 1262	ND		ug Abs	0.500	--	1	A
Aroclor 1268	ND		ug Abs	0.500	--	1	A
PCBs, Total	ND		ug Abs	0.500	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		30-150	A
Decachlorobiphenyl	58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name: Not Specified

Project Number: 19374

Lab Number: L1417106

Report Date: 08/07/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/04/14 15:08
Analyst: JT

Extraction Method: EPA 3540C
Extraction Date: 08/01/14 01:22
Cleanup Method: EPA 3665A
Cleanup Date: 08/02/14
Cleanup Method: EPA 3660B
Cleanup Date: 08/02/14

Parameter	Result	Qualifier	Units	RL	MDL	Column
PCB by GC - Westborough Lab for sample(s): 01-14 Batch: WG710449-1						
Aroclor 1016	ND		ug Abs	0.500	--	A
Aroclor 1221	ND		ug Abs	0.500	--	A
Aroclor 1232	ND		ug Abs	0.500	--	A
Aroclor 1242	ND		ug Abs	0.500	--	A
Aroclor 1248	ND		ug Abs	0.500	--	A
Aroclor 1260	ND		ug Abs	0.500	--	A
Aroclor 1262	ND		ug Abs	0.500	--	A
Aroclor 1268	ND		ug Abs	0.500	--	A
PCBs, Total	0.765		ug Abs	0.500	--	A
Aroclor 1254	0.765		ug Abs	0.500	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	67		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
PCB by GC - Westborough Lab Associated sample(s): 01-14 Batch: WG710449-2 WG710449-3									
Aroclor 1016	66		61		40-140	8		50	A
Aroclor 1260	59		55		40-140	6		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		56		30-150	A
Decachlorobiphenyl	62		57		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		58		30-150	B
Decachlorobiphenyl	74		72		30-150	B

Project Name: Not Specified
Project Number: 19374

Lab Number: L1417106
Report Date: 08/07/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1417106-01A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-02A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-03A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-04A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-05A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-06A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-07A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-08A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-09A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-10A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-11A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-12A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-13A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)
L1417106-14A	Amber 100ml Hexane preserved	A	N/A	4.4	Y	Absent	PCB-8082-3540C(14)

*Values in parentheses indicate holding time in days

Project Name: Not Specified **Lab Number:** L1417106

Project Number: 19374 **Report Date:** 08/07/14

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report

Project Name: Not Specified **Lab Number:** L1417106

Project Number: 19374 **Report Date:** 08/07/14

Data Qualifiers

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: Not Specified
Project Number: 19374
Lab Number: L1417106
Report Date: 08/07/14

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised April 15, 2014

The followlng analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

Serial_No:08071414:28 L-24-7106

DATE: 7/30/14

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: ALPHA ANALYTICAL

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 19374

The cost of this analysis will be covered by EH&E Purchase Order # _____

For EH & E Data Coordinator - URGENT DATA ☐

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
154909	WIPE	EPA 8082 PCB	7/30/14
154911			100cm²
154912			100cm²
154913			
154914			
154915			
154916			
154917			
154918			
154919			
154920			
154921			
154922			
154910			

Special instructions:

☑ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient tminegishi@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/30/14

Received by: Egmont of (company name) Alpha Date: 7/31/14 9:22

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page ____ of ____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

APPENDIX E
QUALITY ASSURANCE/QUALITY CONTROL PLAN

SITE SPECIFIC CRITERIA

Potential exposure to airborne PCBs shall be controlled to as low as reasonably achievable, and in all cases comply with the public health levels of PCBs in school air provided by the U.S. Environmental Protection Agency (EPA) for elementary school (ages 6 to <12 years; 300 ng/m^3; http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/pdf/maxconcentrations.pdf). As the current levels in the school are below the EPA guideline, no further air sampling is proposed for this work.

Potential exposure to PCBs in surface dust shall be controlled to as low as reasonably achievable, and in all cases comply with criterion set forth by the EPA of 10 $\mu g/100\ cm^2$ for occupied spaces as well as a more stringent criteria of 1 $\mu g/100\ cm^2$ previously stipulated by the EPA Region 1 PCB Coordinator for similar work.

QUALITY ASSURANCE/QUALITY CONTROL

This section describes the quality assurance objectives, measurement criteria, and performance criteria that were/will be employed for this program. The selected analytical test methods for this project will have laboratory quantification limits that are lower than the established project action limits. A laboratory certification letter indicating compliance with the requirements of this plan will be provided under separate cover.

The ultimate objective of this project is to evaluate PCB concentrations in soil, as specified in this plan. The data collected must be of sound quality to support evaluation of site conditions.

The ability of the data to meet the project quality objectives shall be measured using data quality criteria, which include precision, accuracy, representativeness, comparability, completeness, and sensitivity parameters. Laboratory and field sampling activity documentation will be used to assess these parameters. In addition, only certified laboratories shall be used to ensure proper data handling techniques. The acceptance criteria and frequency of measurement of these parameters are summarized in Table E.1.

Table E.1 Quality Assurance and Control for air and wipe samples

Data Quality Indicators	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	Frequency
Precision—Overall	±45%	Field duplicates	Minimum: One per group or 20% of samples
Precision—Laboratory	±45%	1. Matrix spike 2. Matrix spike duplicates	Minimum: One per analysis.
Accuracy/Bias	±45%	1. Matrix spike 2. Matrix spike duplicates	Minimum: One per group
Accuracy/Bias	Acceptable quality control range based on analytical technique	Laboratory control samples	Double column GC Surrogate compound
Accuracy/Bias—Contamination	No target analytes above laboratory quantification limit with the exception of common field/laboratory contaminants	1. Equipment blanks 2. Method blanks	Minimum: One per group
Comparability	Not applicable	Comparability check	Double column GC
Data completeness	90% Overall	Data completeness check	One
Sensitivity	±100%	Low calibration standard	Minimum: One

QC quality control
GC gas chromatography

Surface samples will be analyzed using EPA Method 8082 with extraction performed by EPA Method 3540C. Quality assurance and quality control sampling will include one blank, one duplicate sample.

Precision

Precision is the degree of agreement among repeated measurements of the same characteristic under the same or similar conditions. In general, EH&E collects one duplicate sample for every ten samples collected or 20% of the sample size. No less than one duplicate set is collected, regardless of the sample size. The identity of the duplicate sample(s) is not revealed to the analytical laboratory. The target precision among field duplicates is ±45%, indicating good reproducibility. Because of the low possibility of residual PCBs in the collected samples, EH&E believes that a precision of 45% will be an acceptable indicator for reproducibility. Precision levels greater than 45% will not invalidate the sample data set but will be flagged to caution users about the variability within the data.

Accuracy

Accuracy is the extent of agreement between an observed value (sample result) and the accepted or true value of the parameter being measured. All field equipment are calibrated and maintained to minimize variability. EH&E also observes proper handling and packaging techniques to preserve the integrity of the samples. The appropriate laboratory QC program and analytical method determine acceptable recoveries. The laboratory utilizes spiked samples, reference standards, and blanks to assure accuracy. Recoveries outside the acceptable limits will not invalidate the sample data set; however, the data will be flagged to warn of its reliability.

Representativeness

Representativeness is a qualitative term that describes the extent to which a sampling design adequately reflects the environmental conditions of a site. The samples locations were/will be selected to represent the various field conditions and in the locations most likely to be impacted by building related PCBs.

Reasonableness

All data are evaluated for reasonableness based on existing knowledge of the Aroclor mixtures in building environments. Any data that substantially falls outside these expected levels will be further evaluated for accuracy and additional data collection may be required.

Completeness

Completeness is a measure (percentage) of the amount of valid data obtained meeting the data quality objectives. Valid data are data that are soundly founded as evidenced by the data quality indicators. The acceptable completeness percentage for this project is 90%.

APPENDIX F
LIMITATIONS

1. Environmental Health & Engineering, Inc.'s (EH&E) indoor environmental quality assessment described in the attached letter 19374, *Pollock Elementary School, Pollock, Louisiana* (hereafter "the Letter"), was performed in accordance with generally accepted practices employed by other consultants undertaking similar studies at the same time and in the same geographical area; and EH&E observed that degree of care and skill generally exercised by such other consultants under similar circumstances and conditions. The observations described in the Letter were made under the conditions stated therein. The conclusions presented in the Letter were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services.

2. Observations were made of the site as indicated within the Letter. Where access to portions of the site was unavailable or limited, EH&E renders no opinion as to the condition of that portion of the site.

3. The observations and recommendations contained in the Letter are based on limited environmental sampling and visual observation and were arrived at in accordance with generally accepted standards of industrial hygiene practice. The sampling and observations conducted at the site were limited in scope and, therefore, cannot be considered representative of areas not sampled or observed.

4. When an outside laboratory conducted sample analyses, EH&E relied upon the data provided and did not conduct an independent evaluation of the reliability of these data.

5. The purpose of the Letter was to assess the characteristics of the subject site as stated within the Letter. No specific attempt was made to verify compliance by any party with all federal, state, or local laws and regulations.